

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)

The Establishment of Policies)
and Service Rules for the Mobile)
Satellite Service in the 2 GHz Band)

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FEDERAL COMMUNICATIONS COMMISSION
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COMMENTS OF PANAMSAT CORPORATION

On March 25, the Commission released a Notice of Proposed Rulemaking ("NPRM") in the above-referenced proceeding, in which it proposed to adopt policies and service rules for the 2 GHz mobile satellite service ("MSS"). Although the rulemaking's primary focus is the 2 GHz band, the NPRM also raises issues regarding MSS feeder links and TT&C operations using fixed satellite service ("FSS") frequencies, as well as certain other issues that potentially affect FSS operators. PanAmSat Corporation ("PanAmSat"), by its attorneys, hereby comments on those issues.

I. GENERAL ISSUES RELATING TO 2 GHZ MSS FEEDER LINK OPERATIONS

A. NGSO Feeder Links

In the NPRM, the Commission tentatively concludes that sufficient spectrum has been allocated internationally and adopted (or proposed to be adopted) domestically to accommodate the NGSO MSS feeder link needs of 2 GHz applicants.¹ PanAmSat concurs with this conclusion. Moreover, even were that not the case, the Commission should not allow 2 GHz NGSO MSS applicants to operate feeder links in spectrum that has been allocated on a primary basis for GSO FSS operations due to the inherent difficulties involved in NGSO/GSO sharing and the large number of NGSO FSS systems already seeking access to GSO FSS spectrum in the Ku- and Ka-bands.

B. GSO Feeder Links

1. Access To Conventional FSS C- and Ku-band Frequencies

As the NPRM recognizes, the Commission historically has precluded the use of conventional FSS C- and Ku-bands for MSS feeder links.² This policy was

¹ NPRM at ¶ 51.

² NPRM at ¶ 52 and n.99.

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adopted in light of the heavy use of these bands by domestic and international FSS systems and in recognition of the fact that feeder link operations on frequencies and at orbital locations that are intensively used would not be an efficient use of the GSO orbit or of FSS spectrum.³

The justifications underlying the Commission's policy of barring MSS feeder links from the conventional FSS C-and Ku-band apply with equal force to 2 GHz MSS systems. From the perspective of an FSS licensee or applicant, the service link band for an MSS system does not matter: whatever the service link band, the system's use of conventional FSS C-or Ku-band frequencies for feeder links deprives FSS operators of access to that spectrum and limits the ability of the Commission, licensees, and applicants to alter assignments in order to overcome international coordination obstacles or otherwise to promote efficient spectrum usage.

The Commission's policy is as important now as it ever has been. Competition for conventional C- and Ku-band spectrum is intense.⁴ For example, within the eastern portion of the U.S. domestic arc covering 69° W.L. to 105° W.L., every available C-band and Ku-band orbital location either is in use or has been assigned to a licensee. In the western portion of the U.S. domestic arc covering 120° W.L. to 139° W.L., every available C-band location either is in use or has been assigned to a licensee, and only a handful of Ku-band locations remain available.

While the U.S. domestic arc is the most intensively used portion of the arc, growing demand globally for satellite communications and the ever-increasing number of operators vying for available assignments has left little, if any, of the arc "uncongested." In the Asia-Pacific region, for example, competition for orbital locations has been intense for years, straining the ITU's orbital assignment processes. Even in regions that do not currently face competition this strong, FSS operators need the ability to expand their systems in order to serve growing telecommunications markets in Africa, the Middle East, and elsewhere. Were the United States to limit its MSS feeder link exclusion policy solely to the domestic

³ Id.

⁴ As discussed in Section II.C, *infra*, competition for Ka-band spectrum dictates that the Commission's policy of excluding MSS feeder links from conventional FSS spectrum should be extended to the Ka-band.

arc and to other highly congested regions,⁵ its action would have the effect of restricting for all time the amount of FSS capacity that will be available in developing regions.

Moreover, having concluded that the public interest would not be served by allowing 2 GHz MSS systems to use conventional C- and Ku-band frequencies for their feeder links, the Commission should not allow FSS licensees to cede to MSS systems, in private negotiations, the rights to use these frequencies.⁶ If an FSS licensee no longer needs all or a portion of its authorized spectrum, it should return its authorization to the Commission and allow other qualified GSO FSS applicants to compete for its use. It should not, however, be allowed to bypass the FCC's feeder link exclusion and convert the public benefit of FSS spectrum to private gain.⁷

2. Proposed Alternative Bands

The Commission identified four bands outside the conventional C- and Ku-bands for possible use by GSO MSS feeder uplinks: 5850-5925 MHz; 6425-6725 MHz; 12.75-13.25 GHz; and 13.75-14.00 GHz. In addition, it identified two bands outside the conventional C- and Ku-bands for possible use by GSO MSS feeder downlinks: 3600-3650 MHz and 10.7-11.7 GHz.⁸

If MSS use of these bands is authorized, the Commission should ensure that it treats GSO FSS systems equitably. As the NPRM recognizes, three of the proposed bands (3600-3650 MHz, 5850-5925 MHz, and 10.7-11.7 GHz) currently are limited to international use by footnotes US245 and NG104 to the Table of Frequency Allocations.⁹ If the Commission allows GSO MSS systems to use

⁵ See NPRM at ¶ 52.

⁶ See NPRM at ¶ 52 (requesting comment on whether the Commission should entertain exceptions to its policy of prohibiting MSS feeder link use of conventional C- and Ku-band frequencies if a 2 GHz MSS applicant reaches an agreement with an existing FSS licensee).

⁷ If the Commission decides to permit private spectrum negotiations between FSS licensees and MSS applicants notwithstanding these shortcomings, at a minimum it should require that: (i) the MSS proponent reaches agreement with an existing FSS licensee to use its licensed spectrum; (ii) the MSS proponent can operate on a non-interference basis with respect to all other FSS users and facilities, both terrestrial and in-orbit; and (iii) the MSS system's operations will not unreasonably constrain the future development of FSS networks (including VSAT networks).

⁸ NPRM at ¶¶ 53-54.

⁹ NPRM at ¶ 53.

these bands for domestic communications, it should grant GSO FSS systems equivalent rights to use these bands for domestic communications.¹⁰

II. SPECIFIC FEEDER LINK AND TT&C PROPOSALS

A Boeing (Ku-band Feeder Links and AMS(R)S Service Proposal)

Boeing has applied for authority to use Ku-band FSS frequencies for its NGSO MSS feeder links.¹¹ In the NPRM, the Commission stated that it plans to address Boeing's feeder link request in its *SkyBridge NPRM* and NGSO FSS application proceedings, but requested comment in this proceeding on whether NGSO MSS feeder links should be permitted in "NGSO FSS spectrum."¹²

PanAmSat notes at the outset that there will be no need to take up Boeing's request in another proceeding if the Commission adheres to its tentative conclusion that the spectrum that has been set aside for NGSO MSS feeder links should be used to accommodate the needs of the 2 GHz NGSO MSS applicants.¹³

As for whether NGSO MSS feeder links should be permitted in "NGSO FSS spectrum," PanAmSat has discussed the difficulties inherent in NGSO use of GSO spectrum at length in comments filed in the *SkyBridge NPRM* proceeding and in response to Boeing's application, and will not burden the record by repeating those arguments in this proceeding. PanAmSat, however, urges the Commission not to fall prey to the mistaken assumption that there is, or ever will be, such a thing as Ku-band "NGSO FSS spectrum." If GSO/NGSO sharing issues successfully are resolved, NGSO systems will share the Ku-band with GSO systems. In light of the fact that the threshold issue of NGSO/GSO FSS sharing

¹⁰ As discussed in PanAmSat's comments in the *SkyBridge NPRM* proceeding, the Commission should design comparable, but individualized, rules for each satellite service authorized to use the NG104 bands. PanAmSat Comments, ET Docket No. 98-206, at 19-21 (filed March 2, 1999). In each case, the rules should balance the service's need to use the band against the terrestrial service's interest in avoiding broad-scale earth station deployments. The Commission should not, however, simply apply the rules for GSO MSS use (or NGSO FSS use) to GSO FSS systems due to differences in the types of networks employed on each type of system and the constraints on earth station deployments faced by system operators.

¹¹ NPRM at ¶¶ 50, 61.

¹² NPRM at ¶ 61.

¹³ NPRM at ¶ 51. See Section I.A, *supra*.

has not yet been resolved, it is premature to discuss whether NGSO MSS systems should be allowed to use "NGSO FSS spectrum."¹⁴

The NPRM also requests comment on the feasibility of accommodating Boeing's proposal to provide AMS(R)S service over its 2 GHz MSS system.¹⁵ As PanAmSat and the Satellite Coalition previously have discussed, Boeing's proposed provision of aeronautical safety-of-life services using frequencies that, at best, are allocated on a secondary basis for this purpose raises fundamental policy questions.¹⁶ As a result, Boeing's proposal to provide AMS(R)S services makes it particularly important that the Commission defer any consideration of the feeder link portion of Boeing's application until after the GSO/NGSO sharing issue has been resolved.

B. Globalstar (Ku-band Feeder Links)

Globalstar has applied to use feeder link frequencies for its 2 GHz GSO system which fall within the conventional Ku-band.¹⁷ For the reasons discussed in Section I.B.1, *supra*, this request should be denied.

C. Globalstar, Iridium, and Celsat (Ka-band)

Globalstar and Iridium have applied to use Ka-band frequencies for their NGSO MSS feeder links, and Celsat has applied to use Ka-band frequencies for its GSO MSS feeder links.¹⁸ In the NPRM, the Commission proposes to consider these applications in its second Ka-band processing round.¹⁹

PanAmSat agrees that the proper forum for considering requests to use Ka-band spectrum is the Commission's Ka-band processing round. As discussed

¹⁴ In addition, Boeing's feeder link request should be considered only after: (i) Boeing has made a technical showing demonstrating that it can, in operation, satisfy whatever sharing criteria ultimately are adopted; and (ii) the Commission has established a processing round for the Ku-band frequencies requested by Boeing. *See* PanAmSat Petition For Partial Denial Or Deferral Of Processing, File Nos. 179-SAT-P/LA-97(16), 90-SAT-AMEND-98 (filed May 4, 1998).

¹⁵ NPRM at ¶ 22.

¹⁶ *See* PanAmSat Petition, File Nos. 179-SAT-P/LA-97(16), 90-SAT-AMEND-98, *supra* n.14; Satellite Coalition Joint Petition For Partial Denial Or Deferral Of Processing, File Nos. 179-SAT-P/LA-97(16), 90-SAT-AMEND-98 (filed May 4, 1998).

¹⁷ *See* NPRM at ¶¶ 50, 61.

¹⁸ *See* NPRM at ¶¶ 50, 62.

¹⁹ NPRM at ¶ 63.

more fully in pleadings filed in response to the Ka-band second round applications, PanAmSat also strongly encourages the Commission to stand by its Ka-band band plan and to reject any application that proposes a frequency use that deviates from that plan.

One question, however, need not be deferred to the Ka-band processing round. As discussed in Section I.B.1, *supra*, the Commission's policy of prohibiting MSS systems from using conventional FSS frequencies for their feeder links is a crucial means of preserving spectrum for "true" FSS operations and promoting this spectrum's efficient use. The substantial number of first-round Ka-band licenses that already have been granted and the substantial number of second-round Ka-band applications that have been filed make clear that the Ka-band faces the same problems of spectrum and orbital location scarcity as do the C- and Ku-bands.²⁰ The Commission, therefore, should extend to the Ka-band its traditional policy of prohibiting MSS feeder link use of conventional FSS frequencies and, pursuant to this policy, should deny the feeder link portion of Celsat's application.

D. TMI (TT&C)

In general, the 2 GHz MSS applicants requested TT&C frequencies within their requested feeder link bands. TMI, however, requested 1 MHz for uplinks at the upper or lower edge of the 14 GHz FSS allocation and 300 kHz of downlink spectrum at the upper or lower edge of the 12 GHz FSS allocation, instead of within its requested feeder link bands.²¹

In the NPRM, the Commission tentatively decided to require that 2 GHz MSS operators perform TT&C operations within their assigned feeder link frequencies or within bands allocated to space operations.²² PanAmSat supports the Commission's conclusion. As the NPRM recognizes, this approach not only is consistent with the Commission's existing rules but is necessary to ensure that heavily used frequency bands do not become encumbered with auxiliary

²⁰ As in the C- and Ku-bands, scarcity is not limited to the domestic arc. Indeed, orbital location scarcity both within and outside the domestic arc led some parties to ask the FCC to deny certain second-round Ka-band applications pursuant to Sections 25.140(e)-(f) of the Commission's rules.

²¹ NPRM at ¶ 67.

²² NPRM at ¶ 67.

operations that are not associated with the services being provided within the bands.²³

III. ORBITAL DEBRIS MITIGATION

In the NPRM, the Commission states that it will initiate a separate proceeding to determine whether all Commission-licensed satellite systems should be required to adopt debris mitigation strategies but, nonetheless, requested comment on whether 2 GHz MSS operators should have to comply with new orbital debris mitigation practices.²⁴

As it recognizes, the Commission's 2 GHz NPRM is not the appropriate forum for addressing the overall question of orbital debris mitigation, and the fact that the Commission has issued a 2 GHz NPRM does not give non-2 GHz satellite system licensees, applicants, and interested parties adequate notice that a comprehensive policy on orbital debris mitigation could be adopted in this proceeding. Moreover, there is nothing unique about 2 GHz MSS systems with respect to orbital debris mitigation and no reason to adopt unique rules for these systems. Accordingly, the Commission should address the issue of orbital debris mitigation in a separate proceeding.

²³ Id.

²⁴ NPRM ¶¶ 97-102.

CONCLUSION

For the reasons stated herein, PanAmSat respectfully urges the Commission to adopt 2 GHz MSS policies and service rules that reflect GSO FSS systems' extensive use of, dependence on, and continuing need for, available spectrum resources and that otherwise are consistent with these comments.

Respectfully submitted,

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June 24, 1999

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing Comments of PanAmSat Corporation was sent by first-class mail, postage prepaid, this 24th day of June, 1999, to each of the following:

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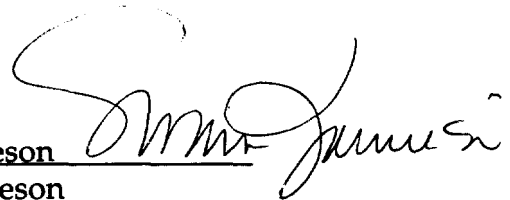
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A handwritten signature in black ink, appearing to read 'Susan Jamieson', written over a horizontal line.

* By Hand